VOLUME CONTENTS

Number 1

F. Vestroni and M. Noori S.-J. Liao	1	An analytic approximation of the drag coefficient for the viscous flow past a sphere
G.W. Luo and J.H. Xie	19	Hopf bifurcations and chaos of a two-degree-of-freedom vibro-impact system in two strong resonance cases
A. Raman and C.D. Mote Jr.	35	Remarks on the non-linear vibration of an axisymmetric circular disk near critical speed
R.S. Zounes and R.H. Rand	43	Subharmonic resonance in the non-linear Mathieu equation
S. Asghar, T. Hayat and A.M. Siddiqui	75	Moving boundary in a non-Newtonian fluid
M.S. Abel, S.K. Khan and K.V. Prasad	81	Study of visco-elastic fluid flow and heat transfer over a stretching sheet with variable viscosity
D.S.D. Stilling and W. Szyszkowski	89	Controlling angular oscillations through mass reconfiguration: a variable length pendulum case
C.H. Riedel and C.A. Tan	101	Coupled, forced response of an axially moving strip with internal resonance
U. Andreaus and P. Casini	117	Friction oscillator excited by moving base and colliding with a rigid or deformable obstacle
S.B. Andersen and J.J. Thomsen	135	Post-critical behavior of Beck's column with a tip mass

Number 2

A. Lewis	153	An investigation of the stability in the large for an autonomous second-order two-degree-of-freedom system
T.R. Mahapatra, G.C. Layek and M.K. Maiti	171	Unsteady laminar separated flow through constricted channel
M. Yürüsoy and M. Pakdemirli	187	Approximate analytical solutions for the flow of a third-grade fluid in a pipe
S.S. Simic	197	On the symmetry approach to polynomial conservation laws of one-dimensional Lagrangian systems
Z. Shu	213	On impulsive processes
G.A Altay and M.C. Dökmeci	225	A non-linear rod theory for high-frequency vibrations of thermopiezoelectric materials

F. Güngör	245	Group classification and exact solutions of a radially symmetric porous-medium equation
F. Oliveri and M.P. Speciale	257	Exact solutions to the unsteady equations of perfect gases through Lie group analysis and substitution principles
T. Feroze and A.H. Kara	275	Group theoretic methods for approximate invariants and Lagrangians for some classes of $y'' + \varepsilon F(t)y' + y = f(y, y')$
C. Currò and D. Fusco	281	A reduction method to quasilinear hyperbolic systems of multicomponent field PDEs with application to wave interaction
S. Fatimah and M. Ruijgrok	297	Bifurcations in an autoparametric system in 1 : 1 internal resonance with parametric excitation
J.-H. He	309	Modified Lindstedt–Poincare methods for some strongly non-linear oscillations Part I: expansion of a constant
J.-H. He	315	Modified Lindstedt–Poincare methods for some strongly non-linear oscillations Part II: a new transformation
P.G. Siddheshwar and C.V. Sri Krishna	321	Unsteady non-linear convection in a second-order fluid
H.-Y. Lai, C.-K. Chen and Y.-L. Yeh	331	Double-mode modeling of chaotic and bifurcation dynamics for a simply supported rectangular plate in large deflection
P. Lynch	345	Resonant motions of the three-dimensional elastic pendulum
M.F. Letelier, D.A. Siginer and C. Cáceres	369	Pulsating flow of viscoelastic fluids in straight tubes of arbitrary cross-section—Part I: longitudinal field
D.A. Siginer and M.F. Letelier	395	Pulsating flow of viscoelastic fluids in straight tubes of arbitrary cross-section—Part II: secondary flows

Number 3

C. Guo, H. Xiulin, Z. Yunyu and Z. Yaoting	409	A study on fractal properties of Mandarin speech
W.Q. Zhu, Z.L. Huang and Y. Suzuki	419	Stochastic averaging and Lyapunov exponent of quasi partially integrable Hamiltonian systems
K. Lee	439	Large deflections of cantilever beams of non-linear elastic material under a combined loading
M. Belhaq, K. Guennoun and M. Houssni	445	Asymptotic solutions for a damped non-linear quasi-periodic Mathieu equation

N. Chandra	461	Constitutive behavior of superplastic materials
L. Preziosi and A. Farina	485	On Darcy's law for growing porous media
L.-Q. Chen and Y.-Z. Liu	493	Chaotic attitude motion of a magnetic rigid spacecraft and its control
W. Zhang and Y. Tang	505	Global dynamics of the cable under combined parametrical and external excitations
F. Bloom	527	Bubble stability in a class of non-Newtonian fluids with shear dependent viscosities
S. Karube, W. Hoshino, T. Soutome and K. Sato	541	The non-linear phenomena in vibration cutting system The establishment of dynamic model
I. Nistor	565	Variational principles for Cosserat body

Number 4 and 5

R. de Borst, S. Kyriakides and T. van Baten	571	
H. Abramovich, J. Singer and T. Weller	577	Repeated buckling and its influence on the geometrical imperfections of stiffened cylindrical shells under combined loading
W. Wunderlich and U. Albertin	589	Buckling behaviour of imperfect spherical shells
U. Hornung and H. Saal	605	Buckling loads of tank shells with imperfections
M.W. Hilburger and J.H. Starnes Jr.	625	Effects of imperfections on the buckling response of compression-loaded composite shells
L. Wullschleger and H.-R. Meyer-Piening	647	Buckling of geometrically imperfect cylindrical shells — definition of a buckling load
D.H. van Campen, V.P. Bouwman, G.Q. Zhang, J. Zhang and B.J.W. ter Weeme	661	Semi-analytical stability analysis of doubly-curved orthotropic shallow panels — considering the effects of boundary conditions
H. Öry, H.-G. Reimerdes, T. Schmid, A. Rittweger and J. Gómez García	671	Imperfection sensitivity of an orthotropic spherical shell under external pressure
V.A. Zarutsky	689	Investigation of ribs influence on stability and vibration of imperfect shells
B. Geier	701	A method to compute Koiter's b-factor of anisotropic panels

A. Legay and A. Combescure	711	Efficient algorithms for parametric non-linear instability analysis
M.P. Nemeth, R.D. Young, T.J. Collins and J.H. Starnes Jr.	725	Effects of initial geometric imperfections on the non-linear response of the Space Shuttle superlightweight liquid-oxygen tank
S. Barlag and H. Rothert	747	An idealization concept for the stability analysis of ring-reinforced cylindrical shells under external pressure
G. Cederbaum and D. Touati	759	Postbuckling analysis of imperfect non-linear viscoelastic cylindrical panels
Z. Waszczyszyn and M. Bartczak	765	Neural prediction of buckling loads of cylindrical shells with geometrical imperfectionsProf. Johann Arbocz on the occasion of his retirement
E. Bielewicz and J. Górski	779	Shells with random geometric imperfections simulation — based approach
G. Ricciardi and I. Elishakoff	787	A novel local stochastic linearization method via two extremum entropy principles
D. Bushnell	803	Global optimum design of externally pressurized isogrid stiffened cylindrical shells with added T-rings
N.F. Knight Jr., C.C. Rankin and F.A. Brogan	835	STAGS computational procedure for progressive failure analysis of laminated composite structures
M. Di Sciuva, M. Gherlone and L. Librescu	853	Implications of damaged interfaces and of other non-classical effects on the load carrying capacity of multilayered composite shallow shells
V.S. Sokolinsky, Y. Frostig and S.R. Nutt	875	Special behavior of unidirectional sandwich panels with transversely flexible core under statical loading
E. Riks and C.C. Rankin	903	Sandwich modeling with an application to the residual strength analysis of a damaged compression panel
J.-X. Xu, H. Huang, P.-Z. Zhang and J.-Q. Zhou	915	Dynamic stability of shallow arch with elastic supports—application in the dynamic stability analysis of inner winding of transformer during short circuit
A.H. Heinen and J. Büllesbach	927	On the influence of geometric imperfections on the stability and vibration of thin-walled shell structures
E.L. Jansen	943	Non-stationary flexural vibration behaviour of a cylindrical shell
C. Sansour, W. Wagner, P. Wriggers and J. Sansour	957	An energy–momentum integration scheme and enhanced strain finite elements for the non-linear dynamics of shells
P.P. Friedmann, K.-A. Yuan and M. de Terlizzi	973	An aeroelastic model for composite rotor blades with straight and swept tips. Part I: Aeroelastic stability in hover

R.J. Zwaan and B.B. Prananta 993 Fluid/structure interaction in numerical aeroelastic simulation

Number 6

V.V. Kuznetsov and S.V. Levyakov 1003 Complete solution of the stability problem for elastica of Euler's column

C. Fetecău and C. Fetecău 1011 The Rayleigh–Stokes problem for heated second grade fluids

R. HaiWu, X. Wei, W. Xiangdon, M. Guang and F. Tong 1017 Response statistics of two-degree-of-freedom non-linear system to narrow-band random excitation

Z.-Q. Feng, Z. Feng and M. Domaszewski 1029 Some computational aspects for analysis of low- and high-velocity impact of deformable bodies

C. Bortone 1037 Inhomogeneous rectilinear shear deformations for electro-active elastic solids

C. Fetecău, C. Fetecău and J. Zierep 1051 Decay of a potential vortex and propagation of a heat wave in a second grade fluid

W.Q. Zhu, Z.L. Huang and M.L. Deng 1057 Feedback minimization of first-passage failure of quasi non-integrable Hamiltonian systems

Y. Kang, C.-P. Chao, C.-C. Chou, M.-H. Chu and L.-H. Mu 1073 An integration method for detecting chaotic responses of nonlinear systems subjected to double excitations

F.E. Udwadia and R.E. Kalaba 1079 On the foundations of analytical dynamics

M. Emin Erdoğan 1091 On the unsteady unidirectional flows generated by impulsive motion of a boundary or sudden application of a pressure gradient

Number 7

A.N. Kounadis 1107 Preface

K. Huseyin 1109 On the methods of non-linear analysis of dynamical systems

D.S. Sophianopoulos, A.N. Kounadis and A.F. Vakakis 1121 Complex dynamics of perfect discrete systems under partial follower forces

M.A. Hayes and G. Saccomandi 1139 Finite amplitude waves superimposed on pseudoplanar motions for Mooney–Rivlin viscoelastic solids

K. Marynowski and T. Kapitaniak 1147 Kelvin–Voigt versus Bürgers internal damping in modeling of axially moving viscoelastic web

V.V. Bolotin, A.A. Grishko and M.Y. Panov	1163	Effect of damping on the postcritical behaviour of autonomous non-conservative systems
F. Pellicano, M. Amabili and M.P. Païdoussis	1181	Effect of the geometry on the non-linear vibration of circular cylindrical shells
D. Tang and E.H. Dowell	1199	Limit cycle oscillations of two-dimensional panels in low subsonic flow
R.M. Ghigliazza and P. Holmes	1211	On the dynamics of cranes, or spherical pendula with moving supports
D. Karagiozova and N. Jones	1223	On dynamic buckling phenomena in axially loaded elastic–plastic cylindrical shells
G.A. Kardomateas, G.J. Simitses, L. Shen and R. Li	1239	Buckling of sandwich wide columns
A.N. Kounadis	1249	Dynamic buckling of simple two-bar frames using catastrophe theory

Number 8

F. Vestroni and M. Noori	1261	Hysteresis in mechanical systems—modeling and dynamic response
N. Abdullah, O. Kastner, I. Müller, A. Musolff, H. Xu and G. Zak	1263	Observations on CuAlNi single crystals
J. Ortín and L. Delaey	1275	Hysteresis in shape-memory alloys
A. Visintin	1283	On hysteresis in elasto-plasticity and in ferromagnetism
D. Bernardini and T.J. Pence	1299	Models for one-variant shape memory materials based on dissipation functions
N. Mostaghel and R.A. Byrd	1319	Inversion of Ramberg–Osgood equation and description of hysteresis loops
P. Krejčí	1337	Reliable solutions to the problem of periodic oscillations of an elastoplastic beam
S.A. Belbas and I.D. Mayergoyz	1351	Optimal control of dynamical systems with Preisach hysteresis
S. Seelecke	1363	Modeling the dynamic behavior of shape memory alloys
A. Masuda and M. Noori	1375	Optimization of hysteretic characteristics of damping devices based on pseudoelastic shape memory alloys
M.A. Savi, P.M.C.L. Pacheco and A.M.B. Braga	1387	Chaos in a shape memory two-bar truss

R. Bouc and D. Boussaa	1397	Drifting response of hysteretic oscillators to stochastic excitation
Y.Q. Ni, Z.G. Ying, J.M. Ko and W.Q. Zhu	1407	Random response of integrable Duhem hysteretic systems under non-white excitation
R. Masiani, D. Capecchi and F. Vestroni	1421	Resonant and coupled response of hysteretic two-degree-of-freedom systems using harmonic balance method
A.W. Smyth, S.F. Masri, E.B. Kosmatopoulos, A.G. Chassiakos and T.K. Caughey	1435	Development of adaptive modeling techniques for non-linear hysteretic systems
D. Sauter and P. Hagedorn	1453	On the hysteresis of wire cables in Stockbridge dampers